

## Overview

<b>Programme Code</b>	35955
<b>Programme Title</b>	Civil Engineering
<b>Awarding Institution</b>	Liverpool John Moores University
<b>Programme Type</b>	Apprenticeship
<b>Language of Programme</b>	All LJMU programmes are delivered and assessed in English
<b>Programme Leader</b>	Edward Loffill
<b>Link Tutor(s)</b>	

## Awards

Award Type	Award Description	Award Learning Outcomes
Target Award	Bachelor of Engineering with Honours - BGH	See Learning Outcomes Below
Alternative Exit	Certificate of Higher Education - CHE	Demonstrate a sound knowledge of the basic concepts of civil engineering related subjects and have learned how to take different approaches to solving engineering problems. Demonstrate a sound knowledge of the basic concepts of civil engineering related subjects and have learned how to take different approaches to solving engineering problems.
Alternative Exit	Bachelor of Engineering - BG	Demonstrate a broad and comparative knowledge of the general scope of the subject, its different areas and applications, and its interactions with related subjects. A detailed knowledge of a defined subject or a more limited coverage of a specialist area balanced by a wider range of study. In each case, specialised study will be informed by current developments in the subject. Demonstrate a critical understanding of the essential theories, principles and concepts of the subject(s) and of the ways in which these are developed through the main methods of enquiry in the subject.
Alternative Exit	Diploma of Higher Education - DHE	Demonstrate analytical and evaluation skills and be able to apply them to a deeper knowledge of the principles and concepts of civil engineering and related subjects. Apprentices will also be able to apply these principles widely within the context of the civil engineering profession. Critically evaluate the appropriateness of different approaches to design and problem solving within civil engineering.

Alternate Award Names

## External Benchmarks

Subject Benchmark Statement
UG-Engineering (2019)

## Apprenticeship Standard

Apprenticeship Standard	End Point Assessment	Proposed Off the Job Training delivery
Civil engineer (degree) - ST0417	Non-Integrated	

## Accreditation

### Programme Accredited by

PSRB Name	Type of Accreditation	Valid From Date	Valid To Date	Additional Notes

Chartered Institute of Highways and Transportation (CIHT)	Accredited by the Chartered Institution of Highways and Transportation (CIHT) on behalf of the Engineering Council for the purposes of fully meeting the academic requirement for registration as an Incorporated Engineer and partially meeting the academic requirement for registration as a Chartered Engineer.			Accredited through the Joint Board of Moderators (JBM).
Institution of Civil Engineers (ICE)	Accredited by Institution of Civil Engineers (ICE) on behalf of the Engineering Council for the purposes of fully meeting the academic requirement for registration as an Incorporated Engineer and partially meeting the academic requirement for registration as a Chartered Engineer.			
Institute of Highway Engineers (IHE)	Accredited by the Institute of Highway Engineers (IHE) on behalf of the Engineering Council for the purposes of fully meeting the academic requirement for registration as an Incorporated Engineer and partially meeting the academic requirement for registration as a Chartered Engineer.			Accredited through the Joint Board of Moderators (JBM).

Institution of Structural Engineers (IStructE)	Accredited by the Institution of Structural Engineers (IStructE) on behalf of the Engineering Council for the purposes of fully meeting the academic requirement for registration as an Incorporated Engineer and partially meeting the academic requirement for registration as a Chartered Engineer.			Accredited through the Joint Board of Moderators (JBM).
--	--	--	--	---

## Programme Offering(s)

Mode of Study, Mode of Delivery	Intake Month	Teaching Institution	Programme Length
Part-Time, Face to Face	September	LJMU Taught	5 Years

## Aims and Outcomes

### Educational Aims of the Programme

This is a Degree Apprenticeship programme. The BEng (Hons) in Civil Engineering fulfils all the academic requirements for Incorporated Engineer status. It is designed to develop a high level of technical expertise together with the leadership skills needed to practice successfully as a professional engineer in the modern international civil engineering environment. The knowledge and skills gained from this programme are designed to enable graduates to make an immediate contribution to their employers, and to enable them to progress to an MSc or PhD in Civil Engineering. The educational aims of the BEng (Hons) in Civil Engineering are to: Provide a programme of study that fully meets the academic requirement for registration as an Incorporated Engineer and partially meets the academic requirements for registration as a Chartered Engineer. Enable apprentices to develop specialist knowledge, intellectual, analytical, practical and critical abilities that will enable them to analyse, investigate and develop solutions to Civil Engineering problems. Develop relevant study and personal skills so that apprentices progressively take responsibility for their learning, becoming, independent learners, while receiving appropriate tutoring and support. Equip apprentices with a range of transferable skills and attributes in the use of computers, software packages, team working, communication, time management, commercial awareness, business awareness and problem solving methodology which will enable them to undertake responsible roles in industry. Provide a degree programme which meets the accreditation requirements of AHEP-4 UK Spec and the needs of industry. Develop apprentices to work in and manage teams and also to work independently. To encourage apprentices to engage with the development of employability skills by completing a self-awareness statement Provide learning opportunities to enable apprentices to demonstrate the required Knowledge, Skills and Behaviours (KSBs) to meet the requirements of the apprenticeship end point assessment (EPA). Provide support to apprentices and employers to achieve the requirements of the apprenticeship end point assessment (EPA) including tripartite meetings, reflection and development of learning plans and recording of off the job learning (OTJL).

## Learning Outcomes

Code	Description
PLO1	Apply knowledge of mathematics, statistics, natural science and engineering principles to the solution of complex problems.
PLO2	Evaluate and mitigate risk, including environmental, commercial and security risk associated with Civil Engineering projects.
PLO3	Work effectively within a group to design, analyse and evaluate Civil Engineering projects, adopting an inclusive approach and recognising the responsibilities, benefits and importance of supporting equality, diversity and inclusivity.
PLO4	Apply practical engineering skills acquired through laboratory work, to the design of complex civil engineering projects.
PLO5	Use a range of land surveying equipment effectively for setting out engineering works and for collecting site data for the production of engineering plans.
PLO6	Exercise initiative and ethical personal responsibility both as a leader and as a team member in academic and work settings.
PLO7	Plan and record CPD for personal and professional development.
PLO8	Develop specifications for materials and methods to ensure quality of engineering design solution and its construction.
PLO9	Develop planning and control project schedules with regard to Civil Engineering project management principles, commercial and legal aspects.
PLO10	Ability to write original technical and research reports in compliance to relevant intellectual property and copyrights.
PLO11	Communicate effectively through the written word, engineering drawings, clear use of mathematic notation, orally and through effective use of IT.
PLO12	Analyse complex Civil Engineering problems by collecting, processing and inferring relevant data, facts and information, and by using first principle mathematics, statistics, applied science and engineering principles in an academic and workplace environment.
PLO13	Communicate effectively on complex engineering matters with technical and non-technical audiences in academic and work place settings.
PLO14	Select and apply appropriate computational and analytical techniques to simulate complex Civil Engineering systems for planning, designing and construction, with due regard to the limitations of the techniques and scope of applications employed.
PLO15	Select and evaluate technical literature and other sources of information to address complex Civil Engineering problems in an academic and work place environment.
PLO16	Develop a methodology based on the critical evaluation of technical literature, using qualitative and quantitative data to provide recommendations to bring improvement aligned with UN SDG's, through independent research.
PLO17	Design innovative solutions in accordance with current appropriate codes of practice and industry standards.

<b>Code</b>	<b>Description</b>
PLO18	Demonstrate professional and ethical behaviour with regard to Civil Engineering, involving consideration of Health and Safety, diversity, inclusion, cultural, societal, environmental and commercial matters.
PLO19	Demonstrate knowledge of the holistic nature of Civil Engineering projects and the wider impact on the society, economy and environment. This will include BIM and life cycle analysis.
PLO20	Develop an awareness and the ability to identify ethical concerns and to make reasoned and justified ethical choices.

## Programme Structure

### Programme Structure Description

Apprentices will study modules as follows on the revised programme: Year 1: modules 4300DCIV, 4301DCIV, 4302DCIV, 4305DCIV Year 2: modules 4303DCIV, 4304DCIV, 4306DCIV Year 3: modules 5300DCIV, 5301DCIV, 5304DCIV, 5305DCIV Year 4: modules 5302DCIV, 5303DCIV, 5307DCIV, 6303DCIV, 6305DCIV Year 5: modules 6300DCIV, 6301DCIV, 6302DCIV, 6304DCIV For apprentices that enrolled on the programme prior to Sept 2022 they will study the following: Started 2018-19 Modules for 2022-23 6304DCIV 6201CIV 6303DCIV Complete in 2022-23 Started 2019-20 Modules for 2022-23 5302DCIV 5303DCIV 5305DCIV 6305DCIV 6303DCIV Modules for 2023-24 Year 5 of revised programme. Started 2020-21 Take revised programme Year 3 modules and complete on revised programme. Complete in 2024-25 Started 2021-22 Modules for 2022-23 4300DCIV 4303DCIV 4305DCIV 4306DCIV Modules for 2023-24 Complete revised programme from Revised Programme Year 3.

Apprentices all need to complete mandatory training in Safeguarding, British Values and Prevent before they can undertake the End Point Assessment. Generic, mandatory online training programmes will offered to apprentices and this may be supplemented by additional training that is specific to the programme.

<b>Programme Structure - 360 credit points</b>	
<b>Level 4 - 120 credit points</b>	
<b>Level 4 Core - 120 credit points</b>	<b>CORE</b>
[MODULE] 4300DCIV Engineering Mathematics I Approved 2022.01 - 20 credit points	
[MODULE] 4301DCIV Structural Analysis and Design I Approved 2022.02 - 20 credit points	
[MODULE] 4302DCIV Materials I Approved 2022.01 - 10 credit points	
[MODULE] 4303DCIV Surveying and CAD Approved 2022.01 - 20 credit points	
[MODULE] 4304DCIV Geotechnics I Approved 2022.02 - 20 credit points	
[MODULE] 4305DCIV Hydraulics Approved 2022.01 - 10 credit points	
[MODULE] 4306DCIV Infrastructure Design and Skills Project Approved 2022.01 - 20 credit points	
<b>Level 5 - 120 credit points</b>	
<b>Level 5 Core - 120 credit points</b>	<b>CORE</b>
[MODULE] 5300DCIV Materials II Approved 2022.03 - 20 credit points	
[MODULE] 5301DCIV Surveying and Transportation Approved 2022.02 - 20 credit points	
[MODULE] 5302DCIV Engineering Mathematics II Approved 2022.02 - 10 credit points	
[MODULE] 5303DCIV Geotechnics II Approved 2022.01 - 10 credit points	
[MODULE] 5304DCIV Water Engineering Approved 2022.01 - 20 credit points	
[MODULE] 5305DCIV Structural Analysis and Design II Approved 2022.03 - 20 credit points	
[MODULE] 5307DCIV Work Based Learning Project Approved 2022.01 - 20 credit points	
<b>Level 6 - 120 credit points</b>	
<b>Level 6 Core - 120 credit points</b>	<b>CORE</b>
[MODULE] 6300DCIV Advanced Materials Approved 2022.01 - 10 credit points	
[MODULE] 6301DCIV Transportation and Infrastructure Approved 2022.01 - 10 credit points	
[MODULE] 6302DCIV Applied Geotechnics and Design Approved 2022.02 - 20 credit points	
[MODULE] 6303DCIV Structural Design and Risk Management Approved 2022.02 - 20 credit points	
[MODULE] 6304DCIV Research Project Approved 2022.02 - 40 credit points	
[MODULE] 6305DCIV Water Supply and Wastewater Management Approved 2022.02 - 20 credit points	

Module specifications may be accessed at <https://proformas.ljmu.ac.uk/Default.aspx>

## Approved variance from Academic Framework Regulations

### Variance

There is an approved variance for this programme: Level 7 Engineering Design Project module is approved as a 60 credit module, and it is approved to run year long.

## Teaching, Learning and Assessment

Acquisition of underpinning knowledge is achieved mainly through student-centred learning delivered through, lectures, tutorials, problem solving sessions, workshops, laboratory and computer sessions, off-site learning activities, participation in group projects and individual investigational/research project. The major vehicles for practical skills are laboratory work, field work including the surveying field course week, and the research project at level 6. The economic, Social and Environmental context of engineering operations is delivered by means of lectures and case studies. The use of appropriate case study material is an essential part of teaching in this area. Testing of knowledge will be done through unseen examinations, assignments, preparation of reports, design tasks, oral presentations, workshops, peer review, computer-based exercises, work placement reports. Assessment of field work and laboratory work also includes practical tests in situ. Tracking of key skills and Civil Engineering attainments.

## Opportunities for work related learning

To put the apprentices' learning into appropriate vocational contexts project modules are assessed in realistic, industrially relevant contexts.

## Entry Requirements

Type	Description
Alternative qualifications considered	GCSE Pass in Mathematics and English required (above Grade 4/C or equivalent) Knowledge, Skills and Behaviours (KSB) 'Skill Scan' required on entry onto the programme.
International Baccalaureate	24 IB points
A levels	Level 4: 112 UCAS points: Minimum Two A2 levels Science and Mathematics preferred but not essential.
Other international requirements	Overseas student applicants must have the equivalent qualifications as UK students. In addition they must have achieved an IELTS score of at least 6.
NVQ	HNC/HND (Cognate) Level 4 Entry: Pass Level 5 Entry: Pass with an average mark of at least 60%

## Extra Entry Requirements



